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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/482,717	01/12/2000	Norman C Chan	4366-5	7386

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EXAMINER

SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 01/02/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/482,717

Applicant(s)

CHAN ET AL.

Examiner

Dr. Ramnandan Singh

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 21-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 11, 21 are rejected under 35 U.S.C. 102(e) as being anticipated by either Dunn et al [US 6,580,793 B1] or Pruett et al [US H1,885].

*As per Claim 1:*

Dunn et al teaches a method and apparatus for echo cancellation within a switching center of a communication network shown in Figs. 1, 4 [col. 5, line 57 to col. 6, line 3; col. 9, line 52 to col. 10, line 13]. The method comprises the steps of: providing a pool of echo cancellers within the switching center [ Fig. 4; col. 5, lines 8-13; col. 3, lines 54-63; col. 8, lines 24-39; col. 11, lines 5-16]; coupling a “near end” 116 (i.e. local user) with a “far end” 112 (i.e. local user) [Fig. 1; col. 5, lines 48-56]; monitoring echo cancellation activity and echo energy during the communication connection; and activating/deactivating an echo canceller using an echo controller 142 [col. 4, lines 25-59] wherein the echo controller includes an echo detector 158, as shown in Fig. 2., to detect echo in a signal [ Figs. 1, 2, 4; col. 7 line 27 to col. 9, line 40]. Further, Fig. 3

Art Unit: 2644

depicts a flow chart for assigning and discontinuing of an echo canceller [col. 10, line 14 to col. 12, line 59].

Pruett et al teaches a method and apparatus for echo cancellation within a switching center of a communication network shown in Figs. 1, 3, 6 [col. 2, line 50 to col. 3, line 7]. Fig. 3 illustrates a echo canceller control system 300 to control a pool of echo canceller modules in a telecommunication switch system [col. 6, lines 9-55]. An echo canceller module controller is formed by call processing system 306, switching module 302, and bank controller 310 [col. 6, line 56 to col. 7, line 22]. Further, Fig. 4b illustrates an agent networking method [col. 8, lines 5-44]. Fig. 5 provides a flow chart for a method 500 for controlling an echo canceller module in a trunk. The method 500 can be used by a telecommunications system to control the operation of an echo canceller module so as to provide echo cancellation only when required, and to prevent the application of echo cancellation to a signal that does not contain any echo [col. 9, line 28 to col. 10, line 56; col. 12, lines 43-54]. Fig. 5 at steps 508 and 512 indicates that the echo canceller is **turned on if the signaling data indicates echo**. Inherently, Pruett et al applies a method to detect echo in a signal, which is **per se known**. For example, Dunn et al [US 6,580,793 B1] shows a method to detect echo using an echo detector 158 [Fig. 2] based on comparing the echo energy  $\Delta E$  with a threshold value 166 [col. 7, lines 61-65; Fig. 3; Steps: 326--336].

Claim 21 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos of Claim 1.

Regarding Claims 22-23, the limitations are shown above.

Claim 11 is also essentially similar to Claim except for a switch for selectively coupling individual first ports to individual second ports. For this, see [Dunn et al; select switch 414 in Fig. 4] and [Pruett et al; switching module 302 in Fig. 3].

Regarding Claim 2, Dunn et al teaches that the far-end and near-end communications devices, as shown in Figs. 1-2, 4, could be any devices that require circuit interconnection of the type shown, and may, for example, be the trunk interface circuits of first and second telephone switching systems [col. 5, lines 64-67].

Claim 12 is essentially similar to Claim 2 except for a plurality of trunks. Dunn et al teaches interface circuits 144 and 148 that accommodate a variety of communications circuits, including analog lines and trunks, ISDN lines, T-carrier facilities, and the like [col. 6, lines 60-65; col. 11, lines 5-16].

Regarding Claim 7, Dunn et al teaches detecting echo cancellation activity using echo detector 158 shown in Fig. 2 [col. 7, line 27 to col. 8, line 6], and allocating an echo canceller as shown in Fig. 3.

Claim 28 is essentially similar to Claim 7 and is rejected for the reasons as stated above.

Regarding Claim 8, Dunn et al teaches a pool of echo cancellers that includes a multi-channel hardware echo cancellation device [Fig. 4; col. 6, lines 33-41; col. 8, lines 24-44].

Claim 14 is essentially similar to Claim 8 and is rejected for the reasons stated above.

Claim 29 is essentially similar to Claim 8 except for allocating an echo canceller. Dunn et al teaches allocating an echo canceller [Fig. 3; col. 10, lines 48-55].

Regarding Claim 9, Dunn et al teaches a pool of echo cancellers that includes a programmable digital signal processing (DSP) device [Fig. 4; col. 5, lines 8-13; col. 8, lines 24-44; col. 9, lines 41-51; col. 11, lines 5-16].

Regarding Claims 6, 10, Pruett et al teaches a call processor 306 that includes an out-of-band signaling agent 316, an agent networking system 318, an in-band signaling agent 320, and signaling interface modules 314; wherein each signaling interface module 314 is operable to receive control and signaling data from an external

Art Unit: 2644

source, such as the switching network [col. 6, lines 9-18; col. 6, line 37 to col. 7, line 22; col. 9, lines 6-18]; and allocating an echo canceller as needed [Fig. 5; col. 9, lines 29-60].

Claims 15, 27, 31 are essentially similar to Claims 6, 10 and are rejected for the reasons stated above.

Regarding Claim 9, Pruett et al teaches a pool of echo cancellers that includes a programmable digital signal processing (DSP) device [col. 4, lines 36-55; col. 7, line 58 to col. 8, line 4].

Claim 30 is essentially similar to Claim 9 and is rejected for the reasons stated above.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 3-4, 13, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al as applied to Claims 2, 11, 23 above.

Art Unit: 2644

Regarding Claims 3, 4, Dunn et al teaches that the far-end and near-end communications devices, as shown in Figs. 1-2, 4, **could be any devices** that require circuit interconnection of the type shown , and may, for example, be **the trunk interface** circuits of first and second telephone switching systems [col. 5, lines 64-67; col. 6, lines 25-33].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to connect a user device that includes a telephone unit providing a communication path between the telephone unit and the trunk in order to avail the telecommunications system 110 [Dunn et al; col. 1, lines 7-11].

Claims 13 and 24-25 are essentially similar to Claims 3-4 and are rejected for the reasons stated above.

9. Claims 5 and 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al as applied to claims 1 and 23 above, and further in view of Toshiyuki [JP-05268121].

Regarding Claim 5, Dunnet al does not teach detecting an echo by perceiving audibly. However, it is well known in the art .

Toshiyuki teaches applying an echo canceller when the talking quality is



Art Unit: 2644

deteriorated. Under this situation, the subscriber operates a pushbutton to implement the adaptive operation of the echo canceller 22 [Abstract].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply the technique of Toshiyuki to Dunn et al to realize stable talking quality by reducing the deterioration in the speech quality by an echo canceller, and thereby improve the communication.

Claim 26 is essentially similar to Claim 5 and is rejected for the reasons stated above.

### ***Conclusion***

**10. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2644

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh  
Examiner  
Art Unit 2644



December 24, 2003



FORESTER W. ISEN  
SUPERVISORY PATENT EXAMINER  
DEC 24 2003